REMARKS

Reconsideration and allowance of the above-identified application are respectfully requested. Upon entry of this amendment claims 3, 4, 7-9, 14-27 will be pending. Entry of these amendments is appropriate in the period after a final rejection because these amendments do not raise new issues and they place the application in immediate condition for allowance.

Applicant would like to thank Examiner Torres for his time and courtesy during the personal interview conducted with the undersigned on September 28, 2006. The following discussion summarizes some of the issues discussed during the personal interview.

The Office Action maintains the objection to the amendments to the specification filed on April 26, 2006 as introducing new matter into the specification. This objection is respectfully traversed.

It should be recognized that not all amendments to the specification are new matter. As discussed in MPEP § 2163.07 I., "[m]ere rephrasing of a passage does not constitute new matter." Additionally, as discussed in M.P.E.P. § 2163.07(a),

> [b]y disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it. *The application may later*

> *be amended to recite the function, theory or advantage without
> introducing prohibited new mater. (emphasis added).*

It is respectfully submitted that the amendments to the specification are either mere rephrasing of the application-as-filed or merely making explicit what was inherent in the application-as-filed. In order to appreciate that these amendments are not prohibited new matter, relevant portions of the application-as-filed are presented below, before addressing the particular amendments to the specification.

The present invention is related to synchronous serial communication. As discussed on page 1, line 20 – page 2, line 8, one problem with conventional serial data communications occurs when a series of data has been dispatched, and a change must be made to this data. Conventional systems require that all the data, including the change, must be retransmitted. This requires a comparatively long time, particularly when a data change must be added later.

The amendments to the specification concern the second mode of transmission, which is disclosed as the block mode. In this mode of transmission

> the data to be transmitted are divided into a plurality of blocks,
> and first block information is sent to indicate the blocks to be
> transmitted, and then the data included in the blocks indicated
> by the block information, to achieve thereby data
> communication. (Page 9, lines 6-10).

Referring now to Figure 2(b), which illustrates the signal pattern when data transmission is achieved through the block mode, and Figure 3, which illustrates a schematic diagram of a data register which stores data received by the data reception controller, when data transmission controller transmits in the block mode it sets data corresponding to the start, second and third bits to indicate transmission based upon the block mode, and

> then set the block information for indicating the blocks to be transmitted from the highest block to the lowest block in order. The controller will send the data included in the blocks which are set by the block information, one after another with 8 bits in order from high-order bit. (Page 11, lines 21-25).

In the example of Fig. 2(b) the 9th and 12th bits of the clock signal are set to 1 which

> indicate[s] changes are introduced in the 3rd block (data corresponding to 31st to 24th bit) and the 0th block (data corresponding to 7th to 0th bit). (Page 12, lines 1-3).

After this indication the changed data is delivered. Specifically, as illustrated in Fig. 2(b)

> two blocks of data amounting to 16 bits in total are delivered...[which] will require, for their delivery, 28 bits or 14 clock signals. If the same amount of data were delivered through the full mode, it would require 34 clock signals as was indicated with reference to Fig. 2(a). Therefore, data transmission based on the block mode could save a time corresponding to 20 clock signals, as compared with data transmission based on the full mode. In other words, as long as argument is limited to the particular example as depicted in

Figs. 2(a) and 2(b), transmitting data through the block mode will shorten the transmission time by a time corresponding to 20 clock signals, as compared with the conventional data transmission based on the full mode. (Page 12, line 19 – page 13, line 1).

Upon receipt of the data illustrated in Fig. 2(b), the data reception controller

recognizes the data continuing from 5th to 12th bits in terms of clock signals carry the information about the blocks transmitted…[which] indicates changes are introduced in the blocks 3 and 0, but the other blocks remain unchanged. (Page 12, lines 10-15).

Specifically, the data reception controller

stores, in the block memory, the block information notifying whether or not data for each block should be written into the memory, according to the signal subsequently transmitted. Then, the data reception controller stores the data corresponding to the relevant block in a descending order of block in the data register portion, by referring to the block information stored in the block memory. (Page 26, lines 13-20).

Turning now to the three amendments to the specification, the amendment to the paragraph beginning on page 5, line 8 was to add the following to the end of the last sentence:

and, on the data included in the block(s) not notified, the corresponding previous data stored in the data receiving component are used.

This amendment to the specification was to make explicit what was inherent in the disclosure as filed for the operation of the second mode, which is the block mode. The application-as-filed makes clear that the present invention is directed to addressing the problem in serial data communication that requires retransmitting all data anew when the change involves only a single data of the previous data. The application-as-filed also makes clear that the present invention transmits only changed blocks of information are transmitted such as the example in Fig. 2(b), in which change is introduced into the 3rd and 0th block are transmitted. This saves approximately 20 clock signals compared to retransmitting all of the data.

As discussed on page 12, lines 13-15, the data transmission controller indicates to the data reception controller that "changes are introduced in the block 3 and 0, but the other blocks remain unchanged." Accordingly, "the data reception controller stores the data corresponding to the relevant block in a descending order of blocks in the data register portion, by referring to the block information stored in the block memory." (Page 26, lines 16-20). Therefore, it is respectfully submitted that the specification makes clear that in the block mode only some data blocks are retransmitted and that the data reception controller uses previously stored data for the data blocks that have not been retransmitted.

The first amendment to the paragraph beginning on page 11, line 17 is to add the following:

At this time, the data in the other blocks are not changed, the
data in the other blocks will not be transmitted.

This sentence has been inserted into the paragraph that that describes the
block mode operation in connection with Fig. 2(b) in which changes are
introduced into the 3rd and 0th block. As described on page 12, line 13-15, the
data transmission controller indicates to the data reception controller that
"changes are introduced in the blocks 3 and 0, but the other blocks remain
unchanged." Because the application-as-filed makes clear that the block mode of
transmission requires less clock signals when transmitting all of the information
as is performed in the full mode, it is respectfully submitted that the application-
as-filed makes clear that unchanged blocks of data are not transmitted.

The last change to the paragraph beginning on page 11, line 17 is to delete
the following:

In other words, as long as argument is limited to the particular
example as depicted in Figs. 2(a) and 2(b), transmitting data
through the block mode will shorten the transmission time by a
time corresponding to 20 clock signals, as compared with the
conventional data transmission based on the full mode.

with the following:

That is, the block information notifying the block(s) to be
transmitted is transmitted first, and then the data included in
the block(s) notified by the block information is transmitted,
while the data included in the block(s) not notified is not
transmitted, and the object of the present invention to improve
the transfer speed can be achieved.

As is clearly illustrated in Fig. 2(b) and discussed on pages 11 and 12 of the application-as-filed, the data transmission controller first indicates the blocks to be transmitted and then transmits such blocks, and that blocks that are unchanged are not transmitted. As is clearly discussed in the deleted portion above, the object of the present invention for improving transfer speed is clearly supported by the application-as-filed. Accordingly, this amendment to the specification is clearly supported by the application-as-filed.

For at least those reasons set forth above it is respectfully submitted that the amendments to the specification filed on April 26, 2006, do not introduce new matter into the disclosure but instead rephrase portions of the application-as-filed and/or make explicit inherent functions, theories and advantages of that disclosed in the application-as-filed. Accordingly, withdrawal of the objections to these amendments as being new matter is respectfully requested.

Applicant notes with appreciation the indication that claims 3, 4, 7-9, 26 and 27 are allowed. In accordance with the indication that claims 14-25 are objected to, but would be allowable if rewritten in independent form, claims 14, 17, 20 and 23 have been rewritten into independent form. Claims 15, 16, 18, 19, 21, 22, 24 and 25 are allowable by virtue of their dependency from claims 14, 17, 20 and 23.

Claims 5, 6 and 10-13 are rejected under 35 U.S.C. § 103(a) as being obvious in view of the combination of U.S. Patent No. 4,825,286 to Grave and

U.S. Patent No. 5,376,968 to Wu. These claims have been canceled thereby rendering this ground of rejection moot.

All outstanding objections and rejections having been addressed it is respectfully submitted that the present application is in immediate condition for allowance. Notice to this effect is earnestly solicited. If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #010642.50458).

Respectfully submitted,

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